

**Listing of Claims**

1. (Currently Amended) System for detecting fibre tracts of a human or animal, comprising memory means for holding diffusion images of a region of interest of said human or animal, first processing means connected to the memory means for deriving fibre tract data from the diffusion images, and second processing means for processing the fibre tracts derived by the first processing means, ~~characterized in that,~~wherein the first processing means includes a discriminator to select the fibre tract data to be processed by the second processing means.

2. (Currently Amended) System according to claim 1, ~~characterized in that,~~wherein the discriminator prevents selecting fibre tract data that jointly represent a fibre tract or fibre tracts of less than a pre-determined length.

3. (Currently Amended) System according to claim 1 ~~or 2,~~ ~~characterized in that,~~wherein the discriminator prevents selecting fibre tract data that jointly represent a bundle of fibre tracts of less than a pre-determined number of fibre tracts per surface area or per volume.

4. (Currently Amended) Method of detecting fibre tracts of a human or animal comprising the steps of

- processing diffusion image data of a region of interest of said human or animal to derive fibre tract data;

- processing the fibre tract data

~~characterized in that,~~wherein processing the fibre tract data is restricted to such fibre tract data that jointly represent a fibre tract or fibre tracts that satisfy at least one pre-determined criterion.

5. (Currently Amended) Method according to claim 4, ~~characterized in that,~~wherein a first pre-determined criterion is selected to represent a minimum-length of the fibre tract or fibre tracts.

6. (Currently Amended) Method according to claim 4 ~~or 5, characterized in that, wherein~~ a second pre-determined criterion is selected to represent a minimum number of fibre tracts per surface area or volume that are part of a bundle of fibre tracts to be processed.

7. (Currently Amended) Computer programme for detecting fibre tracts of a human or animal comprising instructions for

- processing diffusion image data of a region of interest of said human or animal to derive fibre tract data;

- processing the fibre tract data

~~characterized in that, wherein~~ processing the fibre tract data is restricted to such fibre tract data that jointly represent a fibre tract or fibre tracts that satisfy at least one pre-determined criterion.